



## SEQUENCE LISTING

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&lt;210&gt; 1

&lt;211&gt; 14458

&lt;212&gt; DNA

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Asp Leu Gly Val Ala Ile Ala Lys Lys Tyr Gly Gly Glu Val Ile Ser  
 35 40 45

Val Asp Ser Met Gln Phe Tyr Lys Gly Leu Asp Ile Ala Thr Asn Lys  
 50 55 60

Ile Thr Glu Glu Glu Ser Glu Gly Ile Gln His His Met Met Ser Phe  
 65 70 75 80

Leu Asn Pro Ser Glu Ser Ser Ser Tyr Asn Val His Ser Phe Arg Glu  
 85 90 95

Val Thr Leu Asp Leu Ile Lys Lys Ile Arg Ala Arg Ser Lys Ile Pro  
 100 105 110

Val Ile Val Gly Gly Thr Thr Tyr Tyr Ala Glu Ser Val Leu Tyr Glu  
 115 120 125

Asn Asn Leu Ile Glu Thr Asn Thr Ser Asp Asp Val Asp Ser Lys Ser  
 130 135 140

Arg Thr Ser Ser Glu Ser Ser Ser Glu Asp Thr Glu Glu Gly Ile Ser  
 145 150 155 160

Asn Gln Glu Leu Trp Asp Glu Leu Lys Lys Ile Asp Glu Lys Ser Ala  
 165 170 175

Leu Leu Leu His Pro Asn Asn Arg Tyr Arg Val Gln Arg Ala Leu Gln  
 180 185 190

Ile Phe Arg Glu Thr Gly Ile Arg Lys Ser Glu Leu Val Glu Lys Gln  
 195 200 205

Lys Ser Asp Glu Thr Val Asp Leu Gly Gly Arg Leu Arg Phe Asp Asn  
 210 215 220

Ser Leu Val Ile Phe Met Asp Ala Thr Pro Glu Val Leu Glu Glu Arg  
 225 230 235 240

Leu Asp Gly Arg Val Asp Lys Met Ile Lys Leu Gly Leu Lys Asn Glu  
 245 250 255

Leu Ile Glu Phe Tyr Asn Glu His Ala Glu Tyr Ile Asn His Ser Lys  
 260 265 270

Tyr Gly Val Met Gln Cys Ile Gly Leu Lys Glu Phe Val Pro Trp Leu  
 275 280 285

Asn Leu Asp Pro Ser Glu Arg Asp Thr Leu Asn Gly Asp Lys Leu Phe  
 290 295 300

Lys Gln Gly Cys Asp Asp Val Lys Leu His Thr Arg Gln Tyr Ala Arg  
 305 310 315 320

Arg Gln Arg Arg Trp Tyr Arg Ser Arg Leu Leu Lys Arg Ser Asp Gly  
 325 330 335

Asp Arg Lys Met Ala Ser Thr Lys Met Leu Asp Thr Ser Asp Lys Tyr  
 340 345 350

Arg Ile Ile Ser Asp Gly Met Asp Ile Val Asp Gln Trp Met Asn Gly  
 355 360 365

Ile Asp Leu Phe Glu Asp Ile Ser Thr Asp Thr Asn Pro Ile Leu Lys

370

375

380

Gly Ser Asp Ala Asn Ile Leu Leu Asn Cys Glu Ile Cys Asn Ile Ser  
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Met Thr Gly Lys Asp Asn Trp Gln Lys His Ile Asp Gly Lys Lys His  
405 410 415

Lys His His Ala Lys Gln Lys Lys Leu Ala Glu Thr Arg Thr  
420 425 430

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gcaggtctat gaaggcctag acatcatcac caacaagggt tctgcccag agcagagaat 240  
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 a 2041

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 <213> C. elegans

<400> 4

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Pro His Ser Leu Glu Tyr Leu Lys Tyr Leu Gln Gly Val Leu Thr Lys  
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Asn Glu Lys Val Thr Glu Asn Asn Lys Lys Ile Leu Val Glu Ala Leu  
 35 40 45

Arg Ala Ile Ala Glu Ile Leu Ile Trp Gly Asp Gln Asn Asp Ala Ser  
 50 55 60

Val Phe Asp Phe Phe Leu Glu Arg Gln Met Leu Leu Tyr Phe Leu Lys  
 65 70 75 80

Ile Met Glu Gln Gly Asn Thr Pro Leu Asn Val Gln Leu Leu Gln Thr  
 85 90 95

Leu	Asn	Ile	Leu	Phe	Glu	Asn	Ile	Arg	His	Glu	Thr	Ser	Leu	Tyr	Phe	100	105	110	
Leu	Leu	Ser	Asn	Asn	His	Val	Asn	Ser	Ile	Ile	Ser	His	Lys	Phe	Asp	115	120	125	
Leu	Gln	Asn	Asp	Glu	Ile	Met	Ala	Tyr	Tyr	Ile	Ser	Phe	Leu	Lys	Thr	130	135	140	
Leu	Ser	Phe	Lys	Leu	Asn	Pro	Ala	Thr	Ile	His	Phe	Phe	Phe	Asn	Glu	145	150	155	160
Thr	Thr	Glu	Glu	Phe	Pro	Leu	Leu	Val	Glu	Val	Leu	Lys	Leu	Tyr	Asn	165	170	175	
Trp	Asn	Glu	Ser	Met	Val	Arg	Ile	Ala	Val	Arg	Asn	Ile	Leu	Leu	Asn	180	185	190	
Ile	Val	Arg	Val	Gln	Asp	Asp	Ser	Met	Ile	Ile	Phe	Ala	Ile	Lys	His	195	200	205	
Thr	Lys	Glu	Tyr	Leu	Ser	Glu	Leu	Ile	Asp	Ser	Leu	Val	Gly	Leu	Ser	210	215	220	
Leu	Glu	Met	Asp	Thr	Phe	Val	Arg	Ser	Ala	Glu	Asn	Val	Leu	Ala	Asn	225	230	235	240
Arg	Glu	Arg	Leu	Arg	Gly	Lys	Val	Asp	Asp	Leu	Ile	Asp	Leu	Ile	His	245	250	255	
Tyr	Ile	Gly	Glu	Leu	Leu	Asp	Val	Glu	Ala	Val	Ala	Glu	Ser	Leu	Ser	260	265	270	
Ile	Leu	Val	Thr	Thr	Arg	Tyr	Leu	Ser	Pro	Leu	Leu	Leu	Ser	Ser	Ile	275	280	285	
Ser	Pro	Arg	Arg	Asp	Asn	His	Ser	Leu	Leu	Leu	Thr	Pro	Ile	Ser	Ala	290	295	300	
Leu	Phe	Phe	Phe	Ser	Glu	Phe	Leu	Leu	Ile	Val	Arg	His	His	Glu	Thr	305	310	315	320
Ile	Tyr	Thr	Phe	Leu	Ser	Ser	Phe	Leu	Phe	Asp	Thr	Gln	Asn	Thr	Leu	325	330	335	

Thr Thr His Trp Ile Arg His Asn Glu Lys Tyr Cys Leu Glu Pro Ile  
 340 345 350

Thr Leu Ser Ser Pro Thr Gly Glu Tyr Val Asn Glu Asp His Val Phe  
 355 360 365

Phe Asp Phe Leu Leu Glu Ala Phe Asp Ser Ser Gln Ala Asp Asp Ser  
 370 375 380

Lys Ala Phe Tyr Gly Leu Met Leu Ile Tyr Ser Met Phe Gln Asn Asn  
 385 390 395 400

Ala Asp Val Gly Glu Leu Leu Ser Ala Ala Asn Phe Pro Val Leu Lys  
 405 410 415

Glu Ser Thr Thr Thr Ser Leu Ala Gln Gln Asn Leu Ala Arg Leu Arg  
 420 425 430

Ile Ala Ser Thr Ser Ser Ile Ser Lys Arg Thr Arg Ala Ile Thr Glu  
 435 440 445

Ile Gly Val Glu Ala Thr Glu Glu Asp Glu Ile Phe His Asp Val Pro  
 450 455 460

Glu Glu Gln Thr Leu Glu Asp Leu Val Asp Asp Val Leu Val Asp Thr  
 465 470 475 480

Glu Asn Ser Ala Ile Ser Asp Pro Glu Pro Lys Asn Val Glu Ser Glu  
 485 490 495

Ser Arg Ser Arg Phe Gln Ser Ala Val Asp Glu Leu Pro Pro Pro Ser  
 500 505 510

Thr Ser Gly Cys Asp Gly Arg Leu Phe Asp Ala Leu Ser Ser Ile Ile  
 515 520 525

Lys Ala Val Gly Thr Asp Asp Asn Arg Ile Arg Pro Ile Thr Leu Glu  
 530 535 540

Leu Ala Cys Leu Val Ile Arg Gln Ile Leu Met Thr Val Asp Asp Glu  
 545 550 555 560

Lys Val His Thr Ser Leu Thr Lys Leu Cys Phe Glu Val Arg Leu Lys  
 565 570 575

Leu Leu Ser Ser Ile Gly Gln Tyr Val Asn Gly Glu Asn Leu Phe Leu

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Glu	Trp	Phe	Glu	Asp	Glu	Tyr	Ala	Glu	Phe	Glu	Val	Asn	His	Val	Asn
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Phe	Asp	Ile	Ile	Gly	His	Glu	Met	Leu	Leu	Pro	Pro	Ala	Ala	Thr	Pro
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Leu	Ser	Asn	Leu	Leu	Leu	His	Lys	Arg	Leu	Pro	Ser	Gly	Phe	Glu	Glu
625					630					635					640
Arg	Ile	Arg	Thr	Gln	Ile	Val	Phe	Tyr	Leu	His	Ile	Arg	Lys	Leu	Glu
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Arg	Asp	Leu	Thr	Gly	Glu	Gly	Asp	Thr	Glu	Leu	Pro	Val	Arg	Val	Leu
			660					665						670	
Asn	Ser	Asp	Gln	Glu	Pro	Val	Ala	Ile	Gly	Asp	Cys	Ile	Asn	Leu	His
		675					680					685			
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	690					695					700				
Leu	Gly	Lys	Pro	Gly	Asp	Arg	Leu	Ala	Arg	Phe	Leu	Val	Thr	Asp	Arg
705					710					715					720
Leu	Gln	Leu	Ile	Leu	Val	Glu	Pro	Asp	Ser	Arg	Lys	Ala	Gly	Trp	Ala
				725					730						735
Ile	Val	Arg	Phe	Val	Gly	Leu	Leu	Gln	Asp	Thr	Thr	Ile	Asn	Gly	Asp
			740					745						750	
Ser	Thr	Asp	Ser	Lys	Val	Leu	His	Val	Val	Val	Glu	Gly	Gln	Pro	Ser
		755					760					765			
Arg	Ile	Lys	Lys	Arg	His	Pro	Val	Leu	Thr	Ala	Lys	Phe	Ile	Phe	Asp
		770				775					780				
Asp	His	Ile	Arg	Cys	Met	Ala	Ala	Lys	Gln	Arg	Leu	Thr	Lys	Gly	Arg
785					790					795					800
Gln	Thr	Ala	Arg	Gly	Leu	Lys	Leu	Gln	Ala	Ile	Cys	Ser	Ala	Leu	Gly
				805					810					815	
Val	Pro	Arg	Ile	Asp	Pro	Ala	Thr	Met	Thr	Ser	Ser	Pro	Arg	Met	Asn
			820					825					830		

Pro Phe Arg Ile Val Lys Gly Cys Ala Pro Gly Ser Val Arg Lys Thr  
835 840 845

Val Ser Thr Ser Ser Ser Ser Ser Gln Gly Arg Pro Gly His Tyr Ser  
850 855 860

Ala Asn Leu Arg Ser Ala Ser Arg Asn Ala Gly Met Ile Pro Asp Asp  
865 870 875 880

Pro Thr Gln Pro Ser Ser Ser Ser Glu Arg Arg Ser  
885 890

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<213> C. elegans

<400> 5

Met Ala Glu Lys Ala Glu Asn Leu Pro Ser Ser Ser Ala Glu Ala Ser  
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Glu Glu Pro Ser Pro Gln Thr Gly Pro Asn Val Asn Gln Lys Pro Ser  
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Ile Leu Val Leu Gly Met Ala Gly Ser Gly Lys Thr Thr Phe Val Gln  
35 40 45

Arg Leu Thr Ala Phe Leu His Ala Arg Lys Thr Pro Pro Tyr Val Ile  
50 55 60

Asn Leu Asp Pro Ala Val Ser Lys Val Pro Tyr Pro Val Asn Val Asp  
65 70 75 80

Ile Arg Asp Thr Val Lys Tyr Lys Glu Val Met Lys Glu Phe Gly Met  
85 90 95

Gly Pro Asn Gly Ala Ile Met Thr Cys Leu Asn Leu Met Cys Thr Arg  
100 105 110

Phe Asp Lys Val Ile Glu Leu Ile Asn Lys Arg Ser Ser Asp Phe Ser  
115 120 125

Val Cys Leu Leu Asp Thr Pro Gly Gln Ile Glu Ala Phe Thr Trp Ser  
130 135 140



Ala Ser Gly Ser Ile Ile Thr Asp Ser Leu Ala Ser Ser His Pro Thr  
 145 150 155 160

Val Val Met Tyr Ile Val Asp Ser Ala Arg Ala Thr Asn Pro Thr Thr  
 165 170 175

Phe Met Ser Asn Met Leu Tyr Ala Cys Ser Ile Leu Tyr Arg Thr Lys  
 180 185 190

Leu Pro Phe Ile Val Val Phe Asn Lys Ala Asp Ile Val Lys Pro Thr  
 195 200 205

Phe Ala Leu Lys Trp Met Gln Asp Phe Glu Arg Phe Asp Glu Ala Leu  
 210 215 220

Glu Asp Ala Arg Ser Ser Tyr Met Asn Asp Leu Ser Arg Ser Leu Ser  
 225 230 235 240

Leu Val Leu Asp Glu Phe Tyr Cys Gly Leu Lys Thr Val Cys Val Ser  
 245 250 255

Ser Ala Thr Gly Glu Gly Phe Glu Asp Val Met Thr Ala Ile Asp Glu  
 260 265 270

Ser Val Glu Ala Tyr Lys Lys Glu Tyr Val Pro Met Tyr Glu Lys Val  
 275 280 285

Leu Ala Glu Lys Lys Leu Leu Asp Glu Glu Glu Arg Lys Lys Arg Asp  
 290 295 300

Glu Glu Thr Leu Lys Gly Lys Ala Val His Asp Leu Asn Lys Val Ala  
 305 310 315 320

Asn Pro Asp Glu Phe Leu Glu Ser Glu Leu Asn Ser Lys Ile Asp Arg  
 325 330 335

Ile His Leu Gly Gly Val Asp Glu Glu Asn Glu Glu Asp Ala Glu Leu  
 340 345 350

Glu Arg Ser  
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Met Ser Glu Lys Thr Phe His Lys Ala Gln Thr Ile Arg Ala Lys Ala  
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Ser Gly Val Pro Ser Ile Val Glu Ala Val Gln Phe His Gly Val Arg  
20 25 30

Ile Thr Lys Asn Asp Ala Leu Val Lys Glu Val Ser Glu Leu Tyr Arg  
35 40 45

Ser Lys Asn Leu Asp Glu Leu Val His Asn Ser His Leu Ala Ala Arg  
50 55 60

His Leu Gln Glu Val Gly Leu Met Asp Asn Ala Val Ala Leu Ile Asp  
65 70 75 80

Thr Ser Pro Ser Ser Asn Glu Gly Tyr Val Val Asn Phe Leu Val Arg  
85 90 95

Glu Pro Lys Ser Phe Thr Ala Gly Val Lys Ala Gly Val Ser Thr Asn  
100 105 110

Gly Asp Ala Asp Val Ser Leu Asn Ala Gly Lys Gln Ser Val Gly Gly  
115 120 125

Arg Gly Glu Ala Ile Asn Thr Gln Tyr Thr Tyr Thr Val Lys Gly Asp  
130 135 140

His Cys Phe Asn Ile Ser Ala Ile Lys Pro Phe Leu Gly Trp Gln Lys  
145 150 155 160

Tyr Ser Asn Val Ser Ala Thr Leu Tyr Arg Ser Leu Ala His Met Pro  
165 170 175

Trp Asn Gln Ser Asp Val Asp Glu Asn Ala Ala Val Leu Ala Tyr Asn  
180 185 190

Gly Gln Leu Trp Asn Gln Lys Leu Leu His Gln Val Lys Leu Asn Ala  
195 200 205

Ile Trp Arg Thr Leu Arg Ala Thr Arg Asp Ala Ala Phe Ser Val Arg  
210 215 220

Glu Gln Ala Gly His Thr Leu Lys Phe Ser Leu Glu Asn Ala Val Ala  
225 230 235 240

Val Asp Thr Arg Asp Arg Pro Ile Leu Ala Ser Arg Gly Ile Leu Ala  
245 250 255

Arg Phe Ala Gln Glu Tyr Ala Gly Val Phe Gly Asp Ala Ser Phe Val  
260 265 270

Lys Asn Thr Leu Asp Leu Gln Ala Ala Ala Pro Leu Pro Leu Gly Phe  
275 280 285

Ile Leu Ala Ala Ser Phe Gln Ala Lys His Leu Lys Gly Leu Gly Asp  
290 295 300

Arg Glu Val His Ile Leu Asp Arg Cys Tyr Leu Gly Gly Gln Gln Asp  
305 310 315 320

Val Arg Gly Phe Gly Leu Asn Thr Ile Gly Val Lys Ala Asp Asn Ser  
325 330 335

Cys Leu Gly Gly Gly Ala Ser Leu Ala Gly Val Val His Leu Tyr Arg  
340 345 350

Pro Leu Ile Pro Pro Asn Met Leu Phe Ala His Ala Phe Leu Ala Ser  
355 360 365

Gly Ser Val Ala Ser Val His Ser Lys Asn Leu Val Gln Gln Leu Gln  
370 375 380

Asp Thr Gln Arg Val Ser Ala Gly Phe Gly Leu Ala Phe Val Phe Lys  
385 390 395 400

Ser Ile Phe Arg Leu Glu Leu Asn Tyr Thr Tyr Pro Leu Lys Tyr Val  
405 410 415

Leu Gly Asp Ser Leu Leu Gly Gly Phe His Ile Gly Ala Gly Val Asn  
420 425 430

Phe Leu

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<212> PRT  
<213> C. elegans

<400> 7

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Val Lys Ala Ile Leu Lys Asn Phe Glu Val Ser Asn Val Asp Val Asp	35	40	45
Leu Asp Glu Phe Gln Gly Glu Pro Glu Phe Ile Ala Glu Arg Lys Cys	50	55	60
Arg Glu Ala Val Glu Ala Val Lys Gly Pro Val Leu Val Glu Asp Thr	65	70	75
Ser Leu Cys Phe Asn Ala Met Gly Gly Leu Pro Gly Pro Tyr Ile Lys	85	90	95
Trp Phe Leu Lys Asn Leu Lys Pro Glu Gly Leu His Asn Met Leu Ala	100	105	110
Gly Phe Ser Asp Lys Thr Ala Tyr Ala Gln Cys Ile Phe Ala Tyr Thr	115	120	125
Glu Gly Leu Gly Lys Pro Ile His Val Phe Ala Gly Lys Cys Pro Gly	130	135	140
Gln Ile Val Ala Pro Arg Gly Asp Thr Ala Phe Gly Trp Asp Pro Cys	145	150	155
Phe Gln Pro Asp Gly Phe Lys Glu Thr Phe Gly Glu Met Asp Lys Asp	165	170	175
Val Lys Asn Glu Ile Ser His Arg Ala Lys Ala Leu Glu Leu Leu Lys	180	185	190
Glu Tyr Phe Gln Asn Asn	195		

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20

<210> 9

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35 40 45

Gly Glu Ile Val Ser Ala Asp Ser Met Gln Val Tyr Glu Gly Leu Asp  
50 55 60

Ile Ile Thr Asn Lys Val Ser Ala Gln Glu Gln Arg Ile Cys Arg His  
65 70 75 80

His Met Ile Ser Phe Val Asp Pro Leu Val Thr Asn Tyr Thr Val Val  
85 90 95

Asp Phe Arg Asn Arg Ala Thr Ala Leu Ile Glu Asp Ile Phe Ala Arg  
100 105 110

Asp Lys Ile Pro Ile Val Val Gly Gly Thr Asn Tyr Tyr Ile Glu Ser  
115 120 125

Leu Leu Trp Lys Val Leu Val Asn Thr Lys Pro Gln Glu Met Gly Thr  
130 135 140

Glu Lys Val Ile Asp Arg Lys Val Glu Leu Glu Lys Glu Asp Gly Leu  
145 150 155 160

Val Leu His Lys Arg Leu Ser Gln Val Asp Pro Glu Met Ala Ala Lys  
165 170 175

Leu His Pro His Asp Lys Arg Lys Val Ala Arg Ser Leu Gln Val Phe  
180 185 190

Glu Glu Thr Gly Ile Ser His Ser Glu Phe Leu His Arg Gln His Thr  
195 200 205

Glu Glu Gly Gly Gly Pro Leu Gly Gly Pro Leu Lys Phe Ser Asn Pro  
210 215 220

Cys Ile Leu Trp Leu His Ala Asp Gln Ala Val Leu Asp Glu Arg Leu

225		230		235		240
Asp Lys Arg Val	Asp Asp Met Leu Ala	Ala Gly Leu Leu Glu Glu Leu				
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Arg Asp Phe His Arg Arg Tyr Asn Gln Lys Asn Val Ser Glu Asn Ser						
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Gln Asp Tyr Gln His Gly Ile Phe Gln Ser Ile Gly Phe Lys Glu Phe						
	275	280			285	
His Glu Tyr Leu Ile Thr Glu Gly Lys Cys Thr Leu Glu Thr Ser Asn						
	290	295			300	
Gln Leu Leu Lys Lys Gly Pro Gly Pro Ile Val Pro Pro Val Tyr Gly						
	305	310			315	320
Leu Glu Val Ser Asp Val Ser Lys Trp Glu Glu Ser Val Leu Glu Pro						
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Ala Leu Glu Ile Val Gln Ser Phe Ile Gln Gly His Lys Pro Thr Ala						
	340		345			350
Thr Pro Ile Lys Met Pro Tyr Asn Glu Ala Glu Asn Lys Arg Ser Tyr						
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His Leu Cys Asp Leu Cys Asp Arg Ile Ile Ile Gly Asp Arg Glu Trp						
	370		375			380
Ala Ala His Ile Lys Ser Lys Ser His Leu Asn Gln Leu Lys Lys Arg						
	385		390			395
Arg Arg Leu Asp Ser Asp Ala Val Ala Asn Thr Ile Glu Ser Gln Ser						
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Gly Ile Asn Cys Ser Ser Lys Asp Ala Met Met  
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 aaaaattcct gtaattgtcg gaggaaccac ttattatgct gaaagtgtcc tttatgagaa 540  
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Gln Leu Ala Gln Lys Phe Asn Gly Glu Val Ile Asn Ser Asp Ser Met  
 35 40 45

Gln Val Tyr Lys Asp Ile Pro Ile Ile Thr Asn Lys His Pro Leu Gln  
 50 55 60

Glu Arg Glu Gly Ile Pro His Val Met Asn Asn Val Asp Trp Ser Glu  
 65 70 75 80

Glu Tyr Tyr Ser His Arg Phe Glu Thr Glu Cys Met Asn Ala Ile Glu  
 85 90 95

Asp Ile His Arg Arg Gly Lys Ile Pro Ile Val Val Gly Gly Thr His  
 100 105 110

Tyr Tyr Leu Gln Thr Leu Phe Asn Lys Arg Val Asp Thr Lys Ser Ser  
 115 120 125



Glu Arg Lys Leu Thr Arg Lys Gln Leu Asp Ile Leu Glu Ser Asp Pro  
 130 135 140

Asp Val Ile Tyr Asn Thr Leu Val Lys Cys Asp Pro Asp Ile Ala Thr  
 145 150 155 160

Lys Tyr His Pro Asn Asp Tyr Arg Arg Val Gln Arg Met Leu Glu Ile  
 165 170 175

Tyr Tyr Lys Thr Gly Lys Lys Pro Ser Glu Thr Phe Asn Glu Gln Lys  
 180 185 190

Ile Thr Leu Lys Phe Asp Leu Phe Leu Trp Leu Tyr Ser Lys Pro Glu  
 195 200 205

Pro Leu Phe Gln Arg Leu Asp Asp Arg Val Asp Asp Met Leu Glu Arg  
 210 215 220

Gly Ala Leu Gln Glu Ile Lys Gln Leu Tyr Glu Tyr Tyr Ser Gln Asn  
 225 230 235 240

Lys Phe Thr Pro Glu Gln Cys Glu Asn Gly Val Trp Gln Val Ile Gly  
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Phe Lys Glu Phe Leu Pro Trp Leu Thr Gly Lys Thr Asp Asp Asn Thr  
 260 265 270

Lys Leu Glu Asp Cys Ile Glu Arg Met Lys Thr Arg Thr Arg Gln Tyr  
 275 280 285

Ala Lys Arg Gln Val Lys Trp Ile Lys Lys Met Leu Ile Pro Asp Ile  
 290 295 300

Lys Gly Asp Ile Leu Leu Asp Ala Thr Asp Leu Ser Gln Trp Asp Thr  
 305 310 315 320

Asn Ala Ser Gln Arg Ala Ile Ala Ile Ser Asn Asp Phe Ile Ser Asn  
 325 330 335

Arg Pro Ile Lys Gln Glu Arg Ala Lys Ala Leu Glu Glu Leu Leu Ser  
 340 345 350

Lys Gly Glu Thr Thr Met Lys Lys Leu Asp Asp Trp Thr His Tyr Thr  
 355 360 365

Arg Asn Val Cys Arg Asn Ala Asp Gly Lys Asn Val Val Ala Ile Gly

370

375

380

Glu Lys Tyr Trp Lys Ile His Leu Gly Ser Arg Arg His Lys Ser Asn  
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Leu Lys Arg Asn Thr Arg Gln Ala Asp Phe Glu Lys Trp Lys Ile Asn  
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Ile Leu Pro Val Glu Leu Ile Ser Val Asp Ser Ala Leu Ile Tyr Lys  
 35 40 45

Gly Met Asp Ile Gly Thr Ala Lys Pro Asn Ala Glu Glu Leu Leu Ala  
 50 55 60

Ala Pro Arg Leu Leu Asp Ile Arg Asp Pro Ser Gln Ala Tyr Ser Ala  
 65 70 75 80

Ala Asp Phe Arg Arg Asp Ala Leu Ala Glu Met Ala Asp Ile Thr Ala  
 85 90 95

Ala Gly Arg Ile Pro Leu Leu Val Gly Gly Thr Met Leu Tyr Phe Lys  
 100 105 110

Ala Leu Leu Glu Gly Leu Ser Pro Leu Pro Ser Ala Asp Pro Glu Val  
 115 120 125

Arg Ala Arg Ile Glu Gln Gln Ala Ala Glu Glu Gly Trp Glu Ser Leu  
 130 135 140

His Arg Gln Leu Gln Glu Val Asp Pro Val Ala Ala Ala Arg Ile His  
 145 150 155 160

Pro Asn Asp Pro Gln Arg Leu Ser Arg Ala Leu Glu Val Phe Phe Ile  
165 170 175

Ser Gly Lys Thr Leu Thr Glu Leu Thr Gln Thr Ser Gly Asp Ala Leu  
180 185 190

Pro Tyr Gln Val Gln Phe Ala Ile Ala Pro Ala Ser Arg Glu Leu Leu  
195 200 205

His Gln Arg Ile Glu Gln Arg Phe His Gln Met Leu Ala Ser Gly Phe  
210 215 220

Glu Ala Glu Val Arg Ala Leu Phe Ala Arg Gly Asp Leu His Thr Asp  
225 230 235 240

Leu Pro Ser Ile Arg Cys Val Gly Thr Arg Gln Met Trp Ser Tyr Leu  
245 250 255

Glu Gly Glu Ile Ser Tyr Asp Glu Met Val Tyr Arg Gly Val Ala Thr  
260 265 270

Arg Gln Leu Ala Lys Arg Gln Ile Thr Trp Leu Arg Gly Trp Glu Gly  
275 280 285

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290 295 300

Leu Gln Val Val Gly Ala Ile Ala Gly  
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Ala Lys Lys Leu Glu Glu Val Val Gln Ile Leu Gly Asp Lys Phe Pro  
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Cys Thr Leu Val Ala Gln Lys Ile Asp Leu Pro Glu Tyr Xaa Gly Glu  
35 40 45

Pro Asp Glu Ile Ser Ile Gln Lys Cys Gln Glu Ala Val Arg Gln Val  
50 55 60

Gln Gly Pro Val Leu Val Glu Asp Thr Cys Leu Cys Phe Asn Ala Leu  
65 70 75 80

Gly Xaa Leu Pro Gly Pro Tyr Ile Lys Trp Phe Leu Glu Lys Leu Lys  
85 90 95

Pro Glu Gly Leu His Gln Leu Leu Ala Gly Phe Glu Asp Lys Ser Ala  
100 105 110

Tyr Ala Leu Cys Thr Phe Ala Leu Ser Thr Gly Asp Pro Ser Gln Pro  
115 120 125

Val Arg Leu Phe Arg Gly Thr Ser Gly Arg Ile Val Ala Pro Arg Gly  
130 135 140

Cys Gln Asp Phe Gly Trp Asp Pro Cys Phe Gln Pro Asp Gly Tyr Glu  
145 150 155 160

Gln Thr Tyr Ala Glu Met Pro Lys Ala Glu Lys Asn Ala Val Ser His  
165 170 175

Arg Phe Ala Leu Leu Glu Leu Gln Glu Tyr Phe Gly Ser Leu Ala Ala  
180 185 190

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Thr Ile His Leu Ile Asn Glu Ala Leu Asp Leu Glu Glu Leu Gln Asp  
 35 40 45

Thr Asp Leu Asn Ala Ile Ala Leu Ala Lys Gly Lys Gln Ala Val Ala  
 50 55 60

Ala Leu Gly Lys Gly Lys Pro Val Phe Val Glu Asp Thr Ala Leu Arg  
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Phe Asp Glu Phe Asn Gly Leu Pro Gly Ala Tyr Ile Lys Trp Phe Leu  
 85 90 95

Lys Ser Met Gly Leu Glu Lys Ile Val Lys Met Leu Glu Pro Phe Glu  
 100 105 110

Asn Lys Asn Ala Glu Ala Val Thr Thr Ile Cys Phe Ala Asp Ser Arg  
 115 120 125

Gly Glu Tyr His Phe Phe Gln Gly Ile Thr Arg Gly Lys Ile Val Pro  
 130 135 140

Ser Arg Gly Pro Thr Thr Phe Gly Trp Asp Ser Ile Phe Glu Pro Phe  
 145 150 155 160

Asp Ser His Gly Leu Thr Tyr Ala Glu Met Ser Lys Asp Ala Lys Asn  
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Ala Ile Ser His Arg Gly Ala Phe Ala Gln Phe Lys Glu Tyr Leu Tyr  
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Gln Asn Asp Phe  
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Asp Leu Gly Val Asp Ser Ala Glu Glu Thr Gly Leu Thr Phe Ile Glu  
 35 40 45

Asn Ala Ile Leu Lys Ala Arg His Ala Ala Lys Val Thr Ala Leu Pro  
 50 55 60

Ala Ile Ala Asp Asp Ser Gly Leu Ala Val Asp Val Leu Gly Gly Ala  
 65 70 75 80

Pro Gly Ile Tyr Ser Ala Arg Tyr Ser Gly Glu Asp Ala Thr Asp Gln  
 85 90 95

Lys Asn Leu Gln Lys Leu Leu Glu Thr Met Lys Asp Val Pro Asp Asp  
 100 105 110

Gln Arg Gln Ala Arg Phe His Cys Val Leu Val Tyr Leu Arg His Ala  
 115 120 125

Glu Asp Pro Thr Pro Leu Val Cys His Gly Ser Trp Pro Gly Val Ile  
 130 135 140

Thr Arg Glu Pro Ala Gly Thr Gly Gly Phe Gly Tyr Asp Pro Ile Phe  
 145 150 155 160

Phe Val Pro Ser Glu Gly Lys Thr Ala Ala Glu Leu Thr Arg Glu Glu  
 165 170 175

Lys Ser Ala Ile Glu Ser His Arg Gly Gln Ala Leu Lys Leu Leu Leu  
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Asp Ala Leu Arg Asn Gly  
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Leu Ala Glu Arg Phe Gly Gly Glu Ile Ile Ser Ala Asp Ser Met Gln		
65	70	75
Val Tyr Thr His Leu Asp Ile Ala Thr Ala Lys Ala Thr Lys Glu Glu		
85	90	95
Gln Ser Arg Ala Arg His His Leu Leu Asp Val Ala Thr Pro Ala Glu		
100	105	110
Pro Phe Thr Val Thr His Phe Arg Asn Ala Ala Leu Pro Ile Val Glu		
115	120	125
Arg Leu Leu Ala Lys Asp Thr Ser Pro Ile Val Val Gly Gly Thr Asn		
130	135	140
Tyr Tyr Ile Glu Ser Leu Leu Trp Asp Ile Leu Val Asp Ser Asp Val		
145	150	155
Lys Pro Asp Glu Gly Lys His Ser Gly Glu His Leu Lys Asp Ala Glu		
165	170	175
Leu Asn Ala Leu Ser Thr Leu Glu Leu His Gln His Leu Ala Lys Ile		
180	185	190
Asp Ala Gly Ser Ala Asn Arg Ile His Pro Asn Asn Arg Arg Lys Ile		
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Ile Arg Ala Ile Glu Val Tyr Gln Ser Thr Gly Gln Thr		
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